

Remarks

In view of the above amendments and the following remarks, reconsideration and further examination are requested.

The specification and abstract have been reviewed and revised to make a number of editorial revisions. Due to the number of changes involved, a substitute specification and abstract have been prepared and are submitted herewith. No new matter has been added. Enclosed is a marked-up copy of the specification and abstract indicating the changes incorporated therein.

The drawings have been objected to as not including the reference sign "5c." Figure 4 has been amended so as to include the reference sign "5c." No new matter has been added by this amendment. As a result, withdrawal of this objection is respectfully requested.

The drawings have also been objected to as including reference signs "80, 81, 45b, 80b, 81b, 32a, 32b and 32c" which are not mentioned in the description. In the above-mentioned revisions to the specification, the reference signs have now been added to the specification. No new matter has been added by these amendments. As a result, withdrawal of this objection to the drawings is respectfully requested.

The drawings have been objected to because reference sign "45" in Figure 1 should be "45a." Figure 1 has been amended so as to make this change. Now new matter has been added. As a result, withdrawal of this objection is respectfully requested.

Further, it is noted that a number of additional reference signs that were included in the drawings, but not including in the description (e.g., "4d, 209 and 222"), have now been added to the specification. No new matter has been added by these amendments.

In addition, a number of other figures have been amended. Figure 6 has been amended to label the regenerating gas with the reference sign "35c." Figures 7-13 and 15 have been amended to remove the reference signs "58-60" where applicable. It is noted that these signs are not specifically discussed in the specification. Figure 12 has also been amended so as to label a line with the reference sign "40b." Again, it is submitted that no new matter has been added by these amendments to the figures.

Enclosed herewith are substitute formal drawings for Figures 1-20 including the above-mentioned amendments.

The disclosure has been objected to as indicating reference sign “46a” instead of “46.” The specification has been amended so as to make this correction. No new matter has been added. As a result, withdrawal of the objection to the disclosure is respectfully requested.

Claims 12 and 14-26 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claim 12 has been amended so as to remove the term “such as.” Further, claims 12, 14-17, 21 and 23-26 have been amended so as to be in a more structural format. As a result, withdrawal of the rejection under 35 U.S.C. §112, second paragraph, is respectfully requested.

Claims 8, 12 and 14-17 have been rejected under 35 U.S.C. §102(b) as being anticipated by JP 2-86627. Claims 9 and 10 have been rejected under 35 U.S.C. §103(a) as being unpatentable over JP 2-86627 in view of CA 1,295,810. Claims 11 and 13 have been rejected under 35 U.S.C. §103(a) as being unpatentable over JP 2-86627 in view of Lagana (US 4,367,258). Claims 8-26 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Lagana in view of JP 2-86627.

Claims 8-10 and 18 have been amended so as to further distinguish the present invention over the above-mentioned references.

Further, withdrawn claims 1-7 and 27-40 have been canceled without prejudice or disclaimer to the subject matter contained therein.

In addition, claims 8-26 have been amended to make a number of editorial revisions. These revisions have been made to place the claims in better U.S. form. None of these amendments have been made to narrow the scope of protection of the claims, nor to address issues related to patentability and therefore, these amendments should not be construed as limiting the scope of equivalents of the claimed features offered by the Doctrine of Equivalents.

The above-mentioned rejections are submitted to be inapplicable to the claims for the following reasons.

Claim 8 is patentable over JP 2-86627 and the combination of Lagana and JP 2-86627, since claim 8 recites an acid gas scrubbing apparatus for scrubbing a gas

comprising a combustion gas generated by incineration of combustibles or a produced gas generated by gasification of combustibles, the acid gas scrubbing apparatus having, in part, a scrubbing liquid regenerator for regenerating and cooling a gas scrubbing liquid by bringing the gas scrubbing liquid into contact with a regenerating gas having components different from the gas scrubbing liquid and the gas to be scrubbed, and obtaining a gas comprising the regenerating gas into which steam is mixed. Neither JP 2-86627 or the combination of Lagana and JP 2-86627 discloses or suggests an acid gas scrubbing apparatus or a scrubbing liquid regenerator as recited in claim 8.

JP 2-86627 discloses that an absorption liquid is regenerated at a low temperature to prevent the generation of stream. However, the scrubbing liquid regenerator recited in claim 8 operates to obtain a gas comprising a regeneration gas into which steam is mixed. As a result, JP 2-86627 necessarily fails to disclose or suggest this feature of claim 8.

Further, JP 2-86627 discloses that a gas to be scrubbed therein comprises carbon dioxide and only carbon dioxide is removed from the gas. However, the present invention scrubs a gas comprising a combustion gas generated by incineration of combustibles or a produced gas generated by gasification of combustibles, which is not disclosed or suggested by JP 2-86627.

As for the combination of Lagana and JP 2-86627, Lagana discloses a decarbonation installation having first and second absorption columns 25 and 28 and first and second regeneration columns 30 and 35. (See column 2, lines 25-60 and the Figure). However, Lagana also fails to disclose or suggest that the first and second regeneration columns 30 and 35 obtain a gas comprising a regeneration gas into which steam is mixed. Also, the decarbonation installation is not disclosed or suggested as scrubbing a gas comprising a combustion gas generated by incineration of combustibles or a produced gas generated by gasification of combustibles.

Since Lagana and JP 2086627 both fail to disclose or suggest the above-discussed features of claim 8, it is apparent that the combination of Lagana and JP 2086627 fails to disclose or suggest the present invention as recited in claim 8.

In section 16 of the Office Action, CA 1,295,810 is relied upon as disclosing a plurality of regeneration towers. However, CA 1,295,810 fails to disclose or suggest an acid gas scrubbing apparatus for scrubbing a gas comprising a combustion gas generated

by incineration of combustibles or a produced gas generated by gasification of combustibles, the acid gas scrubbing apparatus having, in part, a scrubbing liquid regenerator for obtaining a gas comprising the regenerating gas into which steam is mixed, as discussed above.

As for claim 9, it is patentable over the references relied upon in the rejections for the same reasons as set forth above in support of claim 8. That is, claim 9, like above claim 8, recites an acid gas scrubbing apparatus for scrubbing a gas comprising a combustion gas generated by incineration of combustibles or a produced gas generated by gasification of combustibles, the combustion gas or the produced gas comprising at least one of carbon dioxide, hydrogen sulfide, hydrogen chloride, sulfur oxides, and nitrogen oxides, the acid gas scrubbing apparatus including, in part, a first scrubbing liquid regenerator for obtaining a gas comprising the first regenerating gas into which steam is mixed, which features are not disclosed or suggested in the references.

Claim 10 is patentable over the references relied upon in the rejections, since claim 10 recites an acid gas scrubbing apparatus for scrubbing a gas comprising a combustion gas generated by incineration of combustibles or a produced gas generated by gasification of combustibles, the combustion gas or the produced gas comprising at least one of carbon dioxide, hydrogen sulfide, hydrogen chloride, sulfur oxides, and nitrogen oxides. As discussed above in support of claim 8, none of the references disclose or suggest this feature as recited in claim 10.

Claim 18 is patentable over the combination of Lagana and JP 2-86627, since claim 18 recites an acid gas scrubbing apparatus for scrubbing a gas comprising a combustion gas generated by incineration of combustibles or a produced gas generated by gasification of combustibles, the combustion gas of the produced gas comprising strong acid gases and weak acid gases, the acid gas scrubbing apparatus including, in part, a first gas scrubbing section for removing the strong acid gases in the gas to be scrubbed and cooling the gas to be scrubbed by bringing the gas to be scrubbed into contact with a first gas scrubbing liquid containing first alkaline agent in a countercurrent flow, and a second gas scrubbing section for removing the weak acid gases in the gas, to be scrubbed, discharged from the first gas scrubbing section and cooling the gas to be scrubbed by bringing the gas to be scrubbed into contact with a second gas scrubbing liquid

containing second alkaline agent in a countercurrent flow. The combination of Lagana and JP 2-86627 fails to disclose or suggest an acid gas scrubbing apparatus, first gas scrubbing section, or a second gas scrubbing section as recited in claim 18.

As discussed above in support of claim 8, Lagana discloses a decarbonation installation having first and second absorption columns 25 and 28 and first and second regeneration columns 30 and 35. (See column 2, lines 25-60 and the Figure). However, Lagana also fails to disclose or suggest that one of the first and second absorption columns 25 and 28 removes strong acid gases while the other of the first and second absorption columns 25 and 28 removes weak acid gases as recited in claim 18.

It is also apparent that JP 2-86627 fails to disclose or suggest the first and second gas scrubbing sections as recited in claim 18. As a result, the combination of Lagana and JP 2-86627 fails to disclose or suggest the present invention as recited in claim 18.

In section 16 of the Office Action, CA 1,295,810 is relied upon as disclosing a plurality of regeneration towers. However, CA 1,295,810 also fails to disclose or suggest first and second scrubbing sections as recited in claim 18.

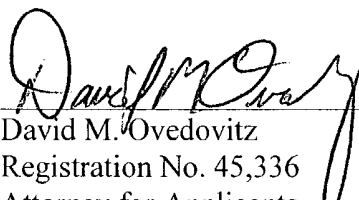
Because of the above mentioned distinctions, it is believed clear that claims 8-26 are allowable over the references relied upon in the rejections. Furthermore, it is submitted that the distinctions are such that a person having ordinary skill in the art at the time of invention would not have been motivated to make any combination of the references of record in such a manner as to result in, or otherwise render obvious, the present invention as recited in claims 8-26. Therefore, it is submitted that claims 8-26 are clearly allowable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. The Examiner is invited to contact the undersigned by telephone if it is felt that there are issues remaining which must be resolved before allowance of the application.

Respectfully submitted,

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